

ABSTRACT OF THE DISCLOSURE

A transmission mode detector for digital receiver is proposed. The transmission mode detector comprises a RF tuner for receiving RF signals and generating intermediate frequency (IF) signals. An envelope detector is employed to filter the IF signals and generate rough envelope signal and a hard-decision machine is employed to quantize the rough envelope signal into hard-decision binary signals. The transmission mode detector further comprises a glitch remover to remove the unwanted glitch in the binary signals and generate envelope signal. An A/D converter is used to quantize the IF signals and generate digital signal. Further more, an I/Q de-multiplexer is used to extract the in-phase and the quadrature terms of the OFDM symbol from the digital signal. The transmission mode detector then detects the transmission mode by a mode detect unit according to the period of the envelope signal. If the detected mode is mode II or III, then the mode detect unit further distinguishes the transmission mode based on the auto-correlations of the OFDM symbol.